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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,556	10/16/2003	Nicholas Paul Cowley	042390.P23862	1174

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EXAMINER

NGUYEN, THUAN T

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/688,556

Applicant(s)

COWLEY ET AL.

Examiner

THUAN T. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless --
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.*

2. Claims 1 and 5-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Ciccarelli et al. (U.S. Patent No. 6,785,529 B2).

Regarding claim 1, Ciccarelli teaches a radio frequency tuner for analogically and digitally modulated signals comprising a tuner arrangement for converting any selected one of analog and digital channels to one of baseband and zero intermediate frequency analog quadrature signals and to also provide digital quadrature signals, and a digital signal processor for processing the digital quadrature signals, the processing further including performing channel filtering to pass the selected channels and substantially reject other channel signals (refer to Figs. 3, 5 and 9; and col. 1/lines 47-58 for a background on obtaining zero IF; col. 2/lines 15-23 for obtaining I and Q signals or quadrature signals; col. 4/lines 11-18 & col. 8/lines 31-43 for the compensation circuit is applied for both analog and digital compensation; and col. 7/lines 19-33 for analog and digital channel filtering and channel rejection).

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As for claim 5, Ciccarelli teaches the CPU or the processor controls or is arranged to correct quadrature conversion errors in the tuner arrangement (Fig. 9 and col. 11/lines 5-43).

As for claims 6-8, Ciccarelli teaches the use of anti-alias filter in the tuner arrangement further includes a low pass filter, and the anti-alias filter is dual use for both analog and digital application (col. 6/line 28 to col. 7/line 33).

As for claim 9-12, Ciccarelli further teaches these features as the filtering characteristics for different modulation standards and the tuner comprising a digital demodulator and an analog demodulator as well as the tuner is a single monolithic integrated circuit (col. 4/line 65 to col. 6/line 7).

Claim Rejections - 35 USC 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ciccarelli et al. (U.S. Patent No. 6,785,529 B2) in view of Horwitz (US Patent No. 6,724,439 B1).

Regarding claim 2, Ciccarelli does not further includes a remodulator for converting an analog channel processed by the processor to an analogically modulated signal at a predetermined intermediate frequency; however, this technique of using a remodulator to perform the indicated function is taught by Horwitz (Horwitz, col. 3/lines 25-54). Therefore, it would have been obvious to one of ordinary skill in the art to modify Ciccarelli's system with

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Horwitz's teaching remodulator in order to remodulate an analog channel signal to an analogically modulated signal at a predetermined intermediate frequency.

As for claim 3, Ciccarelli teaches this feature (refer to col. 1/lines 47-58 for low IF as non-zero intermediate frequency.

As for claim 4, this feature is the combined teaching of Ciccarelli and Horwitz to have the remodulator (of Horwitz's for applying to digital forms as taught by Ciccarelli) comprises a digital remodulator and digital-analog converter.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Suominen, Bishop (in PTO 892 attached) disclose systems related to RF tuner and applications.

6. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to the New Central Fax number:

(571) 273-8300, (for Technology Center 2600 only)

Hand deliveries must be made to Customer Service Window,

Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (571) 272-7895. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Division or Art Unit 2618.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TONY T. NGUYEN
PATENT EXAMINER, FSA

Tony T. Nguyen
Art Unit 2618
November 06, 2006